S/190/63/005/003/012/024
B101/B186

AUTHORS: Fedotova, O. Ya., Losev, I. P., Konyreva, N. M.

TITLE: Some properties of aromatic and arylaliphatic polyamides obtained by interfacial polycondensation. IV

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 3, 1963, 363-367

TEXT: The polymers obtained by interfacial polycondensation of fumaric dichloride with N,N'-diethyl-, N,N',dipropyl-, or N,N'-dibutyl-4,4'-diamino-3,3'dimethyldiphenylmethane at 20°C had higher intrinsic viscosities and higher melting points than those obtained by polycondensation in the melt. Among the solvents for fumaric dichloride, benzene, toluene, carbon tetrachloride and heptane benzene proved to the best. The reaction was completed within 20 min. A 10% diamine excess gave polymers with a somewhat higher intrinsic viscosity, e.g. in the N,N'-diethyl compound 0.090 instead of 0.080 for a 0.5% solution in benzene. An excess produced no effect when better soluble hydrochlorides of the diamines were used. The optimum pH was dependent on the length of the alkyl radical and was 1.6 - 1.8 for the N,N'-diethyl compound, 1.2 - 1.3 for the N,N'-dipropyl compound while for the N,N'-dibutyl compound the addition of 1/mole HCl per mole of diamine

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produced the best results. The optimum concentration for all diamines studied was between 0.2 and 0.3 mole/l. Ionogenic emulsifiers like sodium lauryl sulfate, sodium oleate, sulfonate, quaternary ammonium salt of the diethylaminomethyl derivatives of the poly-isooctyl phenyl ethylene glycol ethers reduced the molecular weight and the yield while the non-ionogenic emulsifier OП-10 (OP-10) hardly influenced the intrinsic viscosity and the yield. The polymers are linear, well soluble and meltable (m.p. 205-230°C), and suitable for the manufacture of films or molded articles. There are 3 figures and 3 tables.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut im. D. I. Mendeleyeva (Moscow Institute of Chemical Technology imeni N. D. Mendeleyev)

SUBMITTED: August 15, 1961

L 12426-63 EWP(j)/EWT(m)/BDS AFFTC/ASD Pr-4 RM
ACCESSION NR: AP3001164 S/0190/63/005/006/0900/0904

AUTHOR: Fedotova, O. Ya.; Losev, I. P.; Kozy*reva, N. M.; Barabanova, G. V.; Churochkina, N. A.

64
62

TITLE: Some properties of unsaturated polyamides

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 5, no. 6, 1963, 900-904

TOPIC TAGS: polycondensation, polyamides, interfacial polycondensation, fumaric acid

ABSTRACT: The present study is a continuation of earlier work on the synthesis and properties of unsaturated polyamides obtained by the methods of equilibrium condensation in the melt as well as by interfacial polycondensation. Using the first method, the synthesis of polyamides from N,N'-diethyl and N,N'-dipropyl derivatives of 4,4'-diamino-3,3'-dimethyldiphenylmethane and fumaric acid in a 1:1 ratio was achieved, the optimal reaction temperatures being 180 and 200C, and the reaction time 7 hours. The obtained polyamides are transparent, glassy, brittle substances, of lower molecular weight and melting point than the same polyamides produced by interfacial polycondensation, which are hard white substances. It was shown that the polymers obtained by the latter method possess thermomechanical properties

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L 12426-63

ACCESSION NR: AP3001164

characteristic for crystalline polymers. Spectrophotometric turbidimetric titrations of 0.01% solutions in formamide, using water as a precipitant, revealed a higher state of polydispersion of the polyamides obtained by equilibrium polycondensation in the melt. Orig. art. has: 5 charts.

ASSOCIATION: Moskovskiy khimico-tekhnologicheskiy institut im. D. I. Mendeleyeva (Moscow Chemical-Technical Institute)

SUBMITTED: 08Dec61 DATE ACQ: 01Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 002 OTHER: 000

Card 2/2

L 22536-66 EWT(m)/EWP(j)/T IJP(c) WW/RM

ACC NR: AP6010119 (A) SOURCE CODE: UR/0190/66/008/003/0536/0539

AUTHOR: Fedotova, O. Ya.; Khoang Kim Tyung; Kozyreva, N. M.; Kolesnikov, G. S.

ORG: Moscow Chemical and Technological Institute im. D. I. Mendeleyev (Moskovskiy khimiko-tekhnologicheskiy institut)

TITLE: Copolymerization of unsaturated polyamides with styrene

31
B

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 3, 1966, 536-539

TOPIC TAGS: copolymerization, polyamide, styrene, polymerization accelerator, polymerization inhibitor

ABSTRACT: A study has been made of copolymerization of poly-3,3'-dimethyldiphenylmethanfumar-N, N'-diethylamide of different molecular weights styrene in the presence of dicyclohexylperoxidicarbonate and accelerators (cobalt naphtenate and dimethylaniline). Thermal NRH-groups in polyamide inhibit copolymerization at a concentration higher than that corresponding to the expenditure of HCl of 2-3 mg/g required for neutralization. The copolymer strength and hardness greatly depend on the molecular weight of the initial polyamide and on the quantity of styrene introduced. Orig. art. has: 3 figures and 2 tables. [Based on authors' abstract.] [NT]

SUB CODE: 07/ SUBM DATE: 15Apr65/ ORIG REF: 001/

Card 1/1 BLG UDC: 66.095.26+678.01:54+678.13+678.675

FEDOTOVA, O. Ya.; KOZYREVA, N.M.

Copolymerization of unsaturated polyamides with vinyl monomers. Vysokom. soed. 8 no. 1:31-33 Ja '66 (MIRA 19:1)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva. Submitted February 6, 1965.

BYKOVA, L.N.; FEDOTOVA, O.Ya.; KOZYREVA, N.M.; PEVZNER, I.D.

Determining the molecular weights of unsaturated polyamide titration of the end groups in nonaqueous solutions. Plas say no.2:53-54 '66. (MIRA 19:2)

CHEKOVA, Margarita Dmitriyevna; KOZYREVA, O.A., red.; RODIONOVA, Z.A., red.

[Assignment cards on mechanical drawing. The ninth grade; a teachers' manual] Kartochki-zadaniia po cherchcheniiu. IA klass; posobie dlia uchitelei. Moskva, Izd-vo "Prosveshchenie," 1964. 301 p. (MIRA 17:7)

KURYNDIN, K.S.; NIKONOVA, Ye.A.; KOZYREVA, R.A.

Anabasine, inhibitor of acid corrosion of steel. Izv. Sib. otd. AN SSSR no.3:83-88 '59. (MIRA 12:8)

1.Novosibirskiy institut inzhenerov zheleznodorozhnogo transporta.
(Steel—Corrosion)(Anabasine)

KURYNDIN, K.S.; KOZYREVA, R.A.

Characteristics of the action of inhibitors of acid corrosion of steel. Izv.Sib.otd.AN SSSR no.3:3-10 '60. (MIRA 13:10)

1. Novosibirskiy institut inzhenerov zheleznodorozhnogo transporta.

(Steel—Corrosion)

KOZYREVA, R.I.; OVSYANNIKOVA, N.I.

Improving the lining of low-frequency induction furnaces for brass smelting. Ogneupory 30 no.2:15-20 '65. (MIRA 18.3)

KOZYREVA, R. K.

Kozyreva, R. K. --"Attempt to Study the Clinical Significance of the Index of Proleucocytolysis in Children in the Presence of Pneumonias." Voronezh State Medical Inst, Voronezh, 1955 (Dissertation for Degree of Doctor of Medical Sciences.)

SO: Knizhnaya Letopis', No. 23, Moscow, Jun 55, pp 97-104

KOZYREVA, S. A.

"Cardiotoxicity of the Human Serum in a Case of True Rheumatism." Thesis for degree of Cand. Medical Sci. Sub 23 May 49. Second Moscow State Medical Inst imeni I. V. Stalin.

Summary 82, 18 Dec 52, Dissertations Presented For Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

KOZYREVA, S.A., kandidat meditsinskikh nauk. (Moskva)

The course of diffuse nephritis in chronic septic endocarditis.
Klin. med., 33 no.10:48-50 O '55. (MLRA 9:2)

(ENDOCARDITIS, BACTERIAL, complications
nephritis, diffuse, pathol. & ther.)
(NEPHRITIS, complications
diffuse nephritis in bact. endocarditis, diag. & ther.)

KOZYREVA,S.T., inzhener

Pulse system operation control in mining and mine installations.
Nauch.rab. VUGI no.11:68-74 '54. (MLRA 8:11)
(Remote control) (Coal mines and mining)

KOZYREVA, V., ekskursovod

Visiting with Mexicans. Prom.koop. 14 no.4:26 Ap '60.
(MIRA 13:6)

1. Vystavka dostizheniy Sovetskogo Soyuza v oblasti nauki, tekhniki i kul'tury, g. Meksiko.
(Mexico City--Exhibitions)

BULATOVA, Z.I.; VOYTSEL', Z.A.; GOHBOVETS, A.N.; IVANOVA, Ye.A.; KAZ'MINA, T.A.; KISEL'MAN, E.N.; KLIMKO, S.A.; KLIMOVA, I.G.; KOZYREVA, V.F.; KORNEVA, F.R.; KOSTITSINA, R.P.; KRUGLOVA, Z.M.; STRIZHOVA, A.I.; MARKOVA, L.G.; TARASOVA, A.S.; USHAKOVA, M.V.; FILIPPOVA, Ye.A., ved.red.; TROFIMOV, A.V., tekhn.red.

[Mesozoic and Cenozoic stratigraphy of the West Siberian Lowland] Stratigrafiia mezozoia i kainozoia Zapadno-Sibirskoi nizmennosti. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1957. 147 p. (MIRA 12:2)

1. Gosudarstvennyy soyuznyy Zapadno-Sibirskiy nefterazvedochnyy trest.

(Siberia, Western--Geology, Stratigraphic)

BYKOVA, N.K.; BALAKHMATOVA, V.T.; VASILENKO, V.P.; VOLOSHINOVA, N.A.; GRIGELIS, A.; DAIN, L.G.; IVANOVA, L.V.; KUZINA, V.I.; KUZNETSOVA, Z.V.; KOZYREVA, V.F.; MOROZOVA, V.G.; MYATLYUK, Ye.V.; SUBBOTINA, N.N.

New genera and species of Foraminifera. Trudy VNIGRI no.115:5-106 '58. (MIRA 11:10)

(Foraminifera, Fossil)

KOZYREVA, Ye. A.

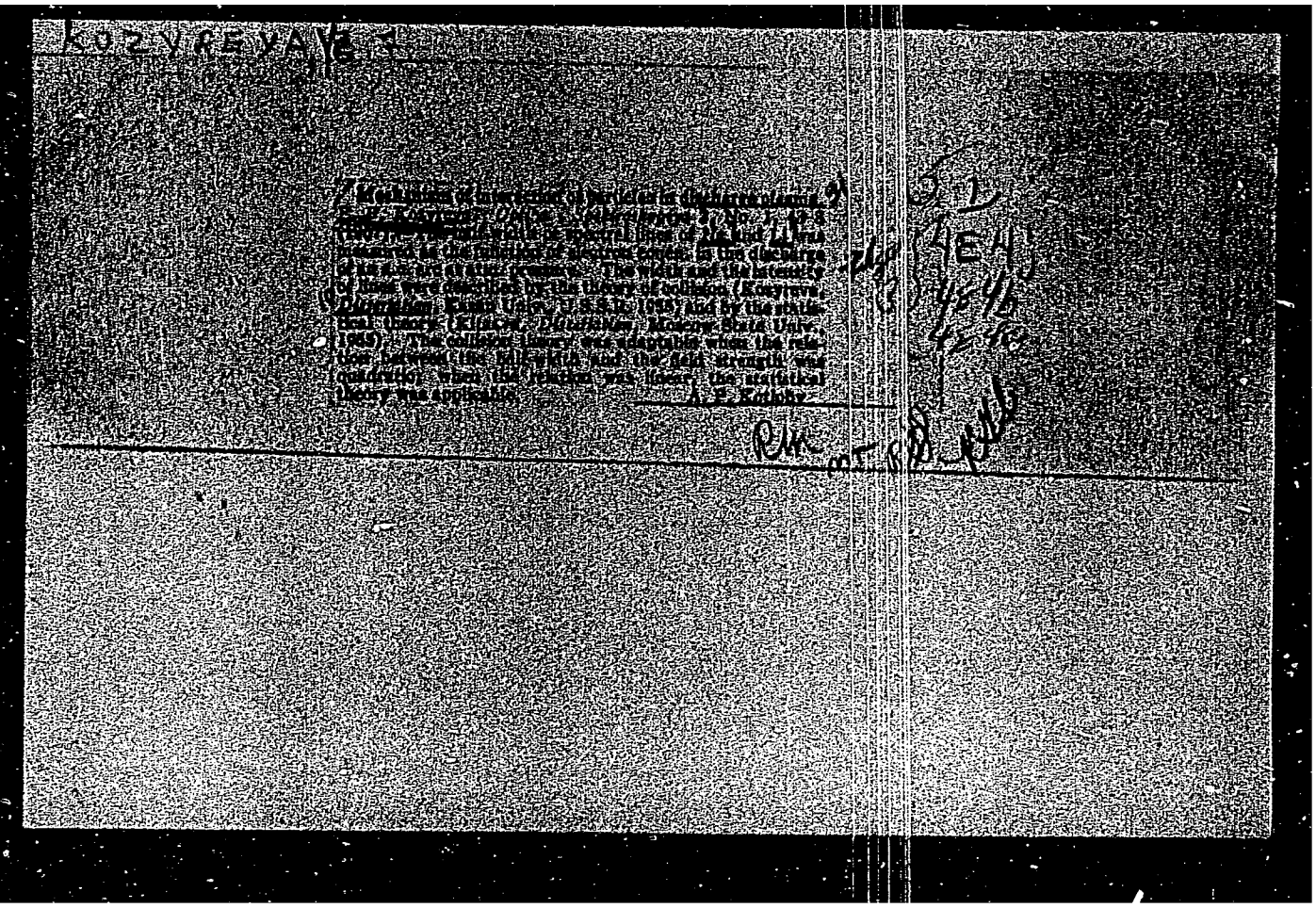
KOZYREVA, Ye. A.: "The sanitary-hygiene characteristics of the centralized feeding system in hospitals (based on data from observing five hospitals in the city of Moscow)." Acad Med Sci. Moscow, 1955.
(Dissertation for Degree of Candidate in Medical Sciences).

SO: Knizhnaya letopis', No 23, 1955

KOZYREVA, YE. F.

KOZYREVA, YE. F.: "On the problem of the broadening of spectral lines in the activized arc of an alternating current." Tomsk, 1955. Min Higher Education USSR. Tomsk State U imeni V. V. Kuybyshev. (Dissertation for the Degree of Candidate of Physicomathematical Sciences.)

SO: Knizhnaya Letopis'No. 47, 19 November 1955. Moscow.



YUKEL'SON, I.I.; KOZYREVA, Ye.F.; GARMONOV, V.I.; GLUKHOVSKIY, V.S.

Synthesis and optical properties of polyethylphenylenethyl. Zhur. prikl. khim. 38 no.5:1165-1167 My '65. (MIRA 18:11)

1. Voronezhskiy tekhnologicheskiy institut.

SOV/58-59-5-11698

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 5, p 255 (USSR)

AUTHOR: Kozyreva, Ye.F.

TITLE: On Spectral Line Broadening in an Activated AC Arc

PERIODICAL: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, 1958, Nr 36, pp 321-324

ABSTRACT: The author investigated the electron and atom concentration dependence of the half-width of the Na, Li and Ca lines in an activated AC arc.

Card 1/1

KOZYREVA, Ye.F.

Electronic-vibrational spectra of arylene alkyl polymers.
Opt. i spektr. 14 no.6:760-766 Je '63. (MIRA 16:8)

(Polymers—Spectra)

KOZYREVA, Ye.F.; YUKEL'SON, I.I.; NUZHDINA, Yu.A.

Optical properties of arylenealkyl polymers. Part 1: Electron absorption spectra. Vysokom.soed. 5 no.9:1360-1366 S '63. (MIRA 17:1)

1. Voronezhskiy tekhnologicheskiy institut.

ACCESSION NR: AP4040476 S/0190/64/006/006/0975/0980

AUTHORS: Kozy*reva, Ye. F.; Nuzhdina, Yu. A.

TITLE: Infrared absorption spectra of polyphenylenethylene

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 6, 1964, 975-980

TOPIC TAGS: arylenalkyl polymer, polyarlyenalkyl absorption spectrum, polyphenylenethylene absorption spectrum, infrared polyphenylenethylene spectrum, aromatic bond, methylene group, deformation frequency, spectrometer IKS12

ABSTRACT: Polyphenylenethylene (PPE) of molecular weight 1350 was studied with an IKS-12 spectrometer. In the 2800-3100 cm^{-1} region it was possible to identify (at 3100 cm^{-1}) the intense absorption bands corresponding to the valence frequencies of the C-H bonds of the aromatic ring. The intensity of the band at 3026 cm^{-1} did not undergo significant changes when solutions of PPE in carbon tetrachloride were substituted for the original viscous oily PPE, while the band at 3083 cm^{-1} shifted toward a lower frequency. The region of intense valence frequencies of the C-H bonds of the methylene groups was located at 2950-2800 cm^{-1}. The PPE spectra within the 700-860 cm^{-1} region were similar to the spectra of para-substituted benzenes.

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ACCESSION NR: AP4040476

In the region of weak bands at 1125-1090 cm^{-1} the deformation frequencies of the aromatic C-H bonds were noncharacteristic and were presumably veiled by more intensive frequencies of the benzene ring and of the methylene groups. It was impossible to identify the bands at frequencies of 887.8 and 901.8 cm^{-1}, while the band at 998.3 cm^{-1} was related to the fully symmetric frequencies of the benzene ring in basic state. The deformation frequencies of hydrogen in the spectrum of benzene were represented by bands at 1178 and 1033 cm^{-1}. Orig. art. has: 2 tables and 3 graphs.

ASSOCIATION: Voronezhskiy tekhnologicheskiy institut (Voronezh Technological Institute)

SUBMITTED: 04Apr63 DATE ACQ: 06Jul64 ENCL: 00

SUB CODE: GC NO REF SOV: 005 OTHER: 006

Card 2/2

L 54961-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM

ACCESSION NR: AP5014165 UR/0080/65/038/005/1165/1167 27 14 8

541.6'65

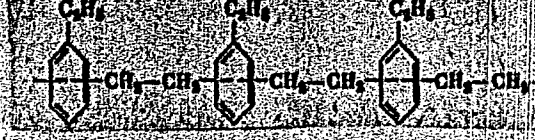
AUTHOR: Yukel'son, I. I.; Kozyreva, Ye. F.; Garmonov, V. I.; Glukhovskoy, V. S.

TITLE: Synthesis and optical properties of polyethylphenylenethyl

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 5, 1965, 1165-1167

TOPIC TAGS: polycondensation, dichloroethane, polyethylene, polyethylphenylenethyl

ABSTRACT: Polyethylphenylenethyl was prepared by polycondensation of 1,2-dichloroethane with ethylbenzene under conditions typical for Friedel-Crafts reactions. At constant conditions an increase in the catalyst ($AlCl_3$) concentration up to a certain level is reflected in an increased molecular weight of the product polymer. The average molecular weight of the polymer increases also with a decrease of the molar ratio of ethylbenzene to dichloroethane. In the case of excess of ethylbenzene the polycondensation reaction is linear and the polymer structure is



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L 54961-65
ACCESSION NR: AP5014165

Maximum of the average molecular weight of the polymer results from equimolar ratio of ethylbenzene to dichloroethane. The ethyl group in the ethylbenzene hinders extensive cross-linking within the polymer. At molar ratios of ethylbenzene to dichloroethane from 1:1 to 0.7:1 the polymer is highly cross-linked, rubber-like, and insoluble in hydrocarbons, alcohols, ketones, and chloroorganic solvents. The photoelectric spectra of polyethylphenylenethyl are typical for branched polymers. The oscillatory character of the maxima of bands for the $\pi \rightarrow \pi^*$ electron transition is explained in terms of the large number of methyl and ethyl groups in polyethylphenylenethyl. Orig. art. has: 2 tables, 3 figures, and 3 formulas.

ASSOCIATION: Voronezhskiy tekhnologicheskiy institut (Voronezh Institute of Technology)

SUBMITTED: 20Jun63 ENCL: 00 SUB CODE: OC, OP

NO REF SOV: 004 OTHER: 000

Card 2/2

FEDOROV, A.F.; KOZYREVA, Ye.F.; MILYAKOV, V.T.

Possibility of an interferometric determination of alcohol in water-alcohol solutions. Ferm. i spirt.prom. 31 no.3:10-11 '65. (MIRA 18:5)

1. Voronezhskiy tekhnologicheskiy institut.

L 13357-66 (A) EWT(m)/EWP(j)/T/EWA(c) RPL WW/JW/JWD/RM

ACC NR: AP6002477 SOURCE CODE: UR/0191/66/000/001/0021/0022

AUTHORS: Sobolevskiy, M. V.; Zhigach, A. F.; Grinevich, K. P.; Sarishvili, I. G.; Siryatskaya, V. N.; Kozyreva, Ye. M.

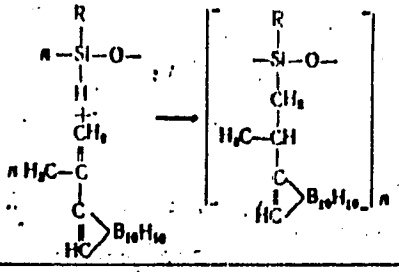
ORG: none

TITLE: Synthesis of polyalkylcarboranesiloxanes

SOURCE: Plasticheskiye massy, no. 1, 1966, 21-22

TOPIC TAGS: polymer, boron compound, borane, organosilicon compound, organoboron compound

ABSTRACT: To extend the available data on the properties of carboranesiloxane polymers described in J. Polymer Sci., 2 No. 1 (1964); 2 No. 7 (1964), the following polyalkylcarboranesiloxane polymers were synthesized



Card 1/2 UDC: 678.84

where R: CH_3, C_2H_5, C_6H_5.

The effects of pressure, temperature, and reaction time on the degree of reaction were studied. The weight loss of the polymers at 140C and 210C was determined as a function of time, and the results are shown graphically in Fig. 1.

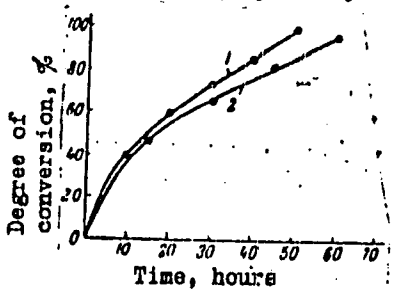


Fig. 1. Dependence of the degree of conversion on the reaction time for the reaction between polyethylhydrosiloxane and isopropenylcarborane at 250C. 1 - polyethylhydropolyethylcarboranesiloxane; 2 - polyethylcarboranesiloxane.

It is noted that polyethylcarboranesiloxane has a greater thermal stability than polyethylhydropolyethylcarboranesiloxane and the initial polyethylhydrosiloxane. Orig. art. has: 4 graphs and 2 equations.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 003

Card 2/2 C07/

L 35892-66 EWP(e)/EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/WH

ACC NR: AP6010868 SOURCE CODE: UR/0115/66/000/002/0030/0032

AUTHOR: Kozyreva, Ye. N.; Drozd, M. S.

ORG: none

TITLE: Using high-curvature diamond ball indentor for hardness testing of high-strength steels

SOURCE: Izmeritel'naya tekhnika, no. 2, 1966, 30-32

TOPIC TAGS: hardness, high strength steel, diamond

ABSTRACT: High-curvature diamond ball indentors are recommended for use in hardness testing of high-strength steels. The hardness can be calculated from this formula: $H = \frac{P - P_0}{\pi D (h - h_0)} = \frac{\Delta P}{\pi D (\Delta h)}$, where P_0 and P are previous and ultimate loads and h_0 and h are imprint depths, respectively; D is the ball diameter, i.e.,

Card 1/2 UDC: 620.178.152.2

the double radius of curvature of a Rockwell-type diamond cone. The maximum permissible indentation depth is equal to the spherical segment altitude, $R\left(1-\sin\frac{\theta}{2}\right)$, where θ is the cone angle. The above theoretical considerations were verified by actual testing of 30 x 30 x 12-mm plates made from steels of 30—69 HRC hardness on a "super-Rockwell" machine. Experimental data is tabulated. It is found that by reducing the diamond test cone angle, the high-strength steels can be tested for hardness by the above method; thus, the method is applicable to all steels, from the softest to the hardest. Orig. art. has: 1 figure, 7 formulas, and 3 tables.

SUB CODE: 11, 13 / SUBM DATE: none / ORIG REF: 006

ALYAVDIN, V.F.; VASIL'YEVA, L.P.; VITOSHINSKAYA, M.I.; GRIGOR'YEVA, L.N.; GODLEVSKIY, M.N.; ZHERBINA, K.M.; ZHEZEZKOVA, V.N.; KISELEVA, A.N.; KOZYREVA, Yu.A.; KULIKOV, K.V.; PAFFENGOL'TS, K.N.; POLEVOY, B.F.; SOLOV'YEV, S.P.; STULOV, N.N.; SHAFRANOVSKIY, I.I.

In memory of A.V.Nemilovoi. Zap.Vses.min.ob-va 90 no.6:756-757 '61. (MIRA 15:2)
(Nemilova, Aleksandra Vasil'evna, 1892-1961)

PAVLOV, N.N.; KOZYREVA, Z.M.

Synthetic polyester fiber terylene. Kauch.i rez.16 no.9:36-39 S '57. (MIRA 10:12)

(Rayon)

KOZYREVA, Z.M.; NAGDASEVA, I.P.; BROVKINA, N.A.

Studying the properties of some types of cord fabrics during one-time and repeated stretching. Kauch. i rez. 22 no.9: 38-41 S '63. (MIRA 16:11)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.

ACCESSION NR: AP4027715 S/0183/64/000/002/0035/0041

AUTHOR: Berestnev, V. A.; Nazdaseva, I. P.; Kozyreva, Z. M.; Tokareva, L. G.; Potemkina, Z. I.; Mikhaylov, N. V.; Kargin, V.A.

TITLE: The effect of heat stabilizers on the structure of capron fiber.

SOURCE: Khimicheskiye volokna, no. 2, 1964, 35-41

TOPIC TAGS: Capron fiber, structure, heat stabilizer, mechanical property, capron cord, morphology, heat treatment, elongation, polymer destruction, thermooxidative destruction, oxidation inhibitor, electron microscope, polarized microscope, fiber forming, fiber drawing, stabilizer polyamide bond, stabilization mechanism

ABSTRACT: The morphological character of capron fiber and the mechanical properties of capron cord stabilized with N, N'-di-beta-naphthy l-p-phenylenediamine (DNFDA) were investigated. Studies showed that heat treatment at 20-140C had little effect on the strength of the cord (34.5/4 x 2 and 10.7/1 x 2). On prolonged heating at elevated temperatures the strength of the stabilized fiber did not change significantly while the unstabilized fiber strength was reduced drastically. Heating under nonoxidizing conditions did not produce significant

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ACCESSION NR: AP4027715

differences in the properties of the stabilized and unstabilized materials. Thus the deterioration of properties in the unstabilized fiber is attributed to thermo-oxidative destruction of the polymer. The oxidation inhibition by DNFDA is futher illustrated by the higher dynamic properties of stabilized fibers. The structure of the fibers was examined with polarized and electron microscopes; photographs are included. The unstabilized capron fiber has a coarse macrostructure within the fiber which is absent at the surface of the fiber. By adding a small amount of stabilizer (0.5%) to the monomer melt, a fiber is obtained which has fine-dimensioned anisodiametric supermolecular macroformations and coarse oriented particles in the core and spherulite type structures in the surface. Based on these observations, it is proposed that self-reinforcement is clearly manifested and its influence on the properties of the stabilized capron fiber is shown. The physico-mechanical properties of the unstabilized capron cord extracted with acetone were reduced with continued heating (strength reduced by 2/3, elongation by 1/2) at 150C for 150 hours. The reduction in strength of the extracted and of unextracted stabilized capron cord was only about 1/4 while there was actually a slight improvement in the elongation. This led to the assumption that there is a strong bond between the stabilized molecules and the polyamide which affects

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ACCESSION NR: AP4027715

the formation and growth of the supermolecular structure upon forming and drawing the fiber. A complex mechanism is proposed for the stabilization of the physical-mechanical properties at high temperatures and dynamic deformation: this mechanism is based on the association of the inhibition of thermochemical destruction of the polymer and on the stabilization of the fine-dimensioned supermolecular structure in the process of breaking down the fibrous materials. "Electron-microscopic data were obtained jointly with K. Kh. Razikov" "Authors express sincere appreciation to A. V. Orlov and K. Kj. Razikov for help in obtaining experimental data." Orig. art. has: 5 tables and 8 figures.

ASSOCIATION: NIIShP; VNIIV; Institut im. Karpova

SUBMITTED: 04Dec62 DATE ACQ: 22Apr64 ENCL: 00

SUB CODE: CH, MA No. REF. SOV: 018 OTHER: 001

Card 3/3

S/138/60/000/006/004/008
A051/A029

AUTHORS: Kozyreva, Z.M., Nagdaseva, I.P., Yaminskaya, Ye.Ya.

TITLE: Resistance of Cord to Repeated Stretching Deformations on the ВДР-1 (VDR-1) Apparatus

PERIODICAL: Kauchuk i Rezina, 1960, No. 6, pp. 30 - 34.

TEXT: The VDR-1 apparatus (Fig. 1) is used for the testing of individual cord fibers under the action of cyclic stretching loads. It was manufactured at the "Metallist" plant according to the NIIShP model designed by A.S. Skachkov. A detailed outline of the component parts in addition to a description of their coordination is given. This instrument ensures results comparable to those of the tread performance. Data are obtained of the effects of temperature and loads on the cord resistance to repeated stretching deformations. Measurements carried out under laboratory conditions showed that in the deformation of the cord fibers in the top layer of the tread at the same depth depression of the block and at an equal internal pressure the caprone cord fibers in the tread are deformed by

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Resistance of Cord to Repeated Stretching Deformations on the ВДР-1 (VDR-1) Apparatus

1.5 to 2.0% more than the viscose cord fibers due to their higher elasticity. It is shown (Table 2) that caprone cord under operation conditions is subjected to less stress than viscose or cotton fiber in the tire. Performance testing of automobile tires cannot give a complete characterization of the cord resistance, since the treads are damaged due to various causes. A number of cord brands with different elasticity moduli were tested for comparative purposes (Fig. 4). Microphotographs are submitted which show that the fiber structure has undergone severe destruction along its length under repeatedly applied force. This does not occur when stress is applied on the dynamometer. There are 8 figures, 5 tables and 5 references: 1 Soviet, 3 English and 1 German.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

S/138/62/000/009/002/002
A051/A126

AUTHORS: Nazdaseva, I.P., Berestnev, V.A., Kozyreva, Z.M.

TITLE: Cord properties of polyenantamide fiber

PERIODICAL: Kauchuk i rezina, no. 9. 1962, 40 - 43

TEXT: The physico-mechanical properties of polyenantamide cord were studied on two batches: no. 1 (1959 production) and no. 2 (1960 production) by comparing them to serial capron cord. Static and dynamic methods of determination were used; tensile strength under repeated expansion was tested on a ВДР-1 (VDR-1) machine, under a static load of 4.5 kg, deformation amplitude of 4.8%, and temperature of 130°C. The Goodrich-type instrument was used to determine the tensile strength at repeated deformations by expansion-compression. The enant cord (batch no. 2) was found to be close to serial capron cord in most of its properties. It is somewhat superior to capron in expansion-compression at high deformation amplitudes. Temperature resistance of both tested cord batches is equal to that of serial capron cord. The heat resistance of the cord is thought to be affected by oxidation products of the low-molecular admixtures in

Card 1/2

Cord properties of polyenantamide fiber

S/138/62/000/009/002/002
A051/A126

the fiber polymer. Obtained test results on the physico-mechanical properties and the structure of the fiber showed that the quality of the second batch of enant fiber is higher than the first. The authors assume a relation between certain structural features of the fibers and the mechanical properties. The mechanical properties of polyamide fiber seem to be determined not by the orientation of the elements of the molecular structure, but rather by the arrangement of other structural elements, possibly certain secondary structural formations. This assumption is proven true by the fact that fiber destruction is determined by the development of macro-defects in it. There are 5 figures and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

Card 2/2

KOZYREVA, Zoya Mikhaylovna; NAGDASEVA, Inna Pavlovna; PISKAREV, Ivan Vasil'yevich; CHARUKHIN, Ivan Gavrilovich; YAMINSKAYA, Yelizaveta Yakovlevna; KUKIN, G.N., doktor tekhn. nauk, prof., retsenzent; AGADZHANOVA, I.A., red.

[Industrial fabrics and their use] Tekhnicheskie tkani i ikh primenenie. Moskva, Legkaia industriia, 1965. 251 p. (MIRA 18:9)

MOZHAROVA, Ye.N.; BELUGINA, Z.T.; VASIL'YEVA, Ye.I.; KOZYRINA, Z.N.; KUCHEROVA, I.D.; OPRYSHKO, N.G.; SHESHINA, G.A.

Radiation therapy of nontumorous diseases and prospects for its evolution. Med. rad. 7 no.9:12-16 S '62. (MIRA 17:8)

1. Iz radioterapevticheskogo otdeleniya (zav. Ye.N. Mozharova) TSentral'nogo nauchno-issledovatel'skogo instituta meditsinskoy radiologii Ministerstva zdravookhraneniya SSSR.

L 10960-67 EWT(1) SCTB DD/RO/JK/GD
ACC NR: AT6036586

SOURCE CODE: UR/0000/66/000/000/0213/0213

AUTHOR: Kozyrevskaya, G. I.; Kolovskova, Yu. S.; Sitnikova, N. N.; Chizhov, S. V.; [illegible]

ORG: none

TITLE: The question of drinking water preservation with ion silver [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 213

TOPIC TAGS: life support system, water purification, silver ion, space nutrition

ABSTRACT: A water-preservation method suitable for spaceflight must keep the taste qualities of drinking water, while preventing development of microflora even after secondary contamination. Most physical methods of disinfecting water can only be used immediately before drinking, since they have an insufficient aftereffect. Biological purification methods are not presently used because of the unfavorable effects of antibiotics on the human organism. The most effective and least toxic of the chemical preservatives are silver preparations.

Experimental data are presented from a 1961—1965 study of the

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L 10969-67
ACC NR: AT6036586

properties of ionic silver as a drinking-water preservative. It was established that the minimum silver dose which ensures a stable bactericidal effect for six months is a dose of 0.1 mg/liter. Doses of silver ions ten or more times larger than the minimum bactericidal dose did not have a toxic effect on experimental animals. Human comsumption of water preserved with silver ions in a dose of 0.1 mg/liter for 15 days did not result in any pathological shifts in the functional condition of those organs and systems most susceptible to the effect of silver.

Experimental material demonstrates the effective preserving qualities of silver ions and the absence of a toxic effect of the preservative on human and animal organisms. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 2/2

KOZYREVSKIY, P.

KOZYREVSKII, P. Business accounting in the machine-tractor stations. p. 65.

Vol. 6, no. 4, Feb. 1956
MACHANISACE ZEMEDELSTVI
AGRICULTURE
Czechoslovakia

So: East European Accession, Vol. 6, No. 5, May 1957

KOZYRIN, A.K.

Effect of current density on impedance in the resistance theory.
Trudy Sver. gor. inst. no.30:18-34 '57. (MIRA 11:4)
(Impedance (Electricity))

AUTHORS: Kozyrin, A. K., Babenkov, V.Ye. 132-58-3-5/15

TITLE: Apparent and Real Resistances of Mineral Rock Deposits According to Results Received by Electrical Core-Sampling (Kazhushchiyesya i istinnyye soprotivleniya porod rudnykh mestorozhdeniy po dannym karotazha)

PERIODICAL: Razvedka i Okhrana Nedr, 1958, Nr 3, p 27-36 (USSR)

ABSTRACT: The measurements of the resistance of minerals in the bore holes are very seldom made, because of a wide-spread opinion of the ineffectiveness and difficulties of using the multi-electrode sounds in the bore holes on the one hand, and the acceptability of the method of sliding contacts on the other hand. The authors demonstrate how the utilization of the sliding contacts method can give the correct picture of different mineral layers found in each bore hole. The use of the results of electrical core sampling and the designing of structural maps is widely used in the oil industry, but very seldom in mineral prospecting operations. A complex analysis of results obtained from electrical core sampling (Figure 4) executed by different methods, makes it possible to determine all the components in a bore-hole and to define their importance. There are 6 figures and 2 tables, and 4 Soviet references.

Card 1/2

132-58-3-5/15

Apparent and Real Resistances of Mineral Rock Deposits According to Results Received by Electrical Core-Sampling

ASSOCIATION: Sverdlovskiy gornyy institut imeni Vakhrusheva (Sverdlovsk Mining Institute imeni Vakhrushev)

AVAILABLE: Library of Congress

Card 2/2 1. Minerals-Resistivity-Measurement

KOZYRIN, A.K.

Interpretation of vertical electric sounding curves by the use of combination charts. Trudy Sver.gor.inst. no.34:71-77 '59.
(MIRA 13:5)
(Electric prospecting)

KOZYRIN, A.K.

Some results of electric prospecting from bore holes. Trudy Sver. gor.inst. no.34:77-90 '59. (MIRA 13:5)
(Electric prospecting)

KOZYRIN, A. K., dotsent; ROVINSKIY, M. S., inzh.

Economic efficiency of geophysical prospecting of drill holes in ore deposits. Izv. vys. ucheb. zav.; gor. zhur. no.10:66-73 '61. (MIRA 15:10)

1. Sverdlovskiy gornyy institut imeni V. V. Vakhrusheva (for Kozyrin). 2. Ural'skoye geologicheskoye upravleniye (for Rovinskiy). Rekomendovana kafedroy rudnoy geofiziki Sverdlovskogo gornogo instituta.

(Prospecting--Geophysical methods)

KOZYRIN, A.K., dotsent; KOROLIUK, T.I., inzh.; SAPOZHNIKOV, V.M., inzh.

Determining the parameters of electrically conductive beds from electric shot-hole prospecting data. Izv. vys. ucheb. zav.; gor. zhur. no. 7:3-10 '63. (MIRA 16:9)

1. Sverdlovskiy gornyy institut imeni V.V.Vakhrusheva. Rekomendovana kafedroy rudnoy geofiziki Sverdlovskogo gornogo instituta.
(Electric prospecting)

KOZYRINA, A.M.

Varnish paints used in electrostatic finishing of furniture. Bum. i der. prom. no.4:15-19 O-D '63. (MIRA 17:3)

1. Ukrainskiy nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki drevesiny.

KOZYRINA, A.P.; YAKHNO, A.G.; BELOKON', M.Ye.

Use of ultrasonic waves in electric spray painting. Der. prom. 14 no.8:4-6 Ag '65. (MIRA 18:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki drevesiny.

BELOKON', M.Ye.; INOZEMTSEV, G.B.; KOZYRINA, A.P.; VOZNYUK, V.S.; OSTIYAN, Z.Yu.; KOZUB, M.M.; MAN'KO, Ya.V.

Electric apparatus for chair varnishing. Der. prom. 12 no.9: 11-12 S '63. (MIRA 16:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki drevesiny (for Belokon', Inozemtsev, Kozyrina, Voznyuk).
2. Irshavskiy mebel'nyy kombinat (for Ostiyan, Kozub, Man'ko).

YAKUNO, A.G.; KOZYRINA, A.P.

Use of varnishes of high viscosity in electric spray painting. Bum. i der. prom. no.4:44-48 O-D '65.

(MIRA 18:12)

KOZYRINA, L.A.

SUDZILOVSKIY, G.A., dotsent, kand.filologicheskikh nauk, KRAVETS, L.G., red.; KOZYRINA, L.A., red.; ANIKINA, P.F., tekhn.red.

[English-Russian military dictionary of terms referring to rear areas and supplies]. Anglo-russkii voennyi slovar' terminov po tylu i snabzheniiu. Okolo 25000 terminov i sochetanii. Moskva, Voen. izd-vo M-va obor. SSSR, 1958. 449 p. (MIRA 11:9)
(English language--Dictionaries--Russian)
(Military art and science--Dictionaries)

17(7), 23(3,4,5)
SOV/77-4-4-7/19

AUTHORS: Danilin, A.A., Kozyrina, Z.N., Shcherban', E.I. and Khachkuruzova, E.S.

TITLE: Autoradiography of Smears of Peripheric Blood as a Method of Early Recognition of Inner Irradiation With Radioactive Substances

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1959, Vol 4, Nr 4, pp 289-291 (USSR)

ABSTRACT: The authors present a method of autoradiography of smears of peripheric blood by putting photographic emulsions on them. From blood, containing radioactive substances, a thin smear is prepared on a clean, by alcohol and ether thoroughly degreased microscope slide. The dried smear is fixed by methyl alcohol. A sublayer of 1% celiodine solution is put on the fixed blood smear. Then liquid photographic emulsion is put on the smear. The dried up smear is exposed in a cooler. The exposed preparation is treated for 3-4 minutes in amidol developer and fixed with 40% hyposulphite. The smear is dyed after the radioautography is dried

Card 1/2

Autoradiography of Smears of Peripheric Blood as a Method of Early Recognition of Inner Irradiation With Radioactive Substances

up. The dyed preparation is covered with lacquer. Figures 1, 2 and 3 show microphotographs, made by this method. There are 3 diagrams and 4 Soviet references.

ASSOCIATION: Leningrad, Tsentral'nyy nauchno-issledovatel'skiy rentgeno-radiologicheskiy institut Ministerstva zdravookhraneniya SSSR (Leningrad Central Scientific Research Institute for Roentgenology and Radiology of the Ministry of Public Health of USSR)

SUBMITTED: May 17, 1958

PETROV, A.D.; PLATE, A.F.; CHERNYSHEV, Ye.A.; DOLGAYA, M. Ye.; BELIKOVA, N.A.; KRASNOVA, T.L.; LEYTES, L.A.; PRYANISHNIKOVA, M.A.; TAYTS, G.S.; KOZYRKIN, B.I.

Preparation of organosilicon derivatives of bicyclo [2.2.1] heptane. Zhur. ob. khim. 31 no.4:1199-1208 Ap '61. (MIRA 14:4)

1. Institut organicheskoy khimii Akademii nauk SSSR.
(Bicycloheptane) (Silicon organic compounds)

KOZYRKINA, M.I. (Dnepropetrovsk)

Reactive stuporous states and their treatment. Probl.sud.psikh. 9:250-251 '61. (MIRA 15:2)

(STUPOR)

[illegible], [illegible]. V.

[illegible], [illegible]. V. --"Certain Features of the Growth and Propagation of Plums under Conditions of the Leningrad Oblast." *(Dissertations for Degree in Science and Engineering Defended at USSR Higher Educational Institutions) Min of Higher Education USSR, Leningrad Agricultural Inst, Leningrad, 1955

SO: Knizhnaya Letopis', No. [illegible]5, 1[illegible] Jun 55

* For Degree of Candidate in Agricultural Sciences

KOZYR'KOV, G.; MOROZOV, A.

An electric sparking machine. Radio no.2:28 F '63. (MIRA 16:2)
(Electric metal-cutting)

KOZYR'KOV, V.

Telecommunications training shop Prof.-tekh. obr. 11 no.5:20 Ag '54. (MLRA 7:9)

1. Master remeslennogo uchilishcha svyazi No. 15 (Voronezhskaya oblast')
(Voronezh Province--Telegraph--Study and teaching)
(Telegraph--Study and teaching--Voronezh Province)

GUSEV, S.M.; NOVOSELOV, S.P.; NIKULINA, O.I.; GUBANOV, I.G.; KOZYRNOVA, L.I.

Lead oxide. Patent U.S.S.R. 77,936 , Dec. 31, 1949.
(CA 47 no.19:9828 '53)

POLAND

STEMPIEN, R., FABIANOWSKI, J. and KOZYRSKA, H., of the Infectious Diseases Clinic, School of Medicine (Klinika Chorob Zakaznych Akademii Medycznej), Lodz. Dr. R. Stempien, Acting Head.

"Familial Cutaneous Diphtheria"

Warsaw, Przeglad Epidemiologiczny, Vol 20, No 3, 1966, pp 315-317.

Abstract (Authors' English Summary modified): A case is reported of primary diphtheria of the skin of the palms persisting for five months which caused pharyngeal diphtheria in members of the patient's family. Diphtheria bacilli of the gravis type were isolated from the seropurulent discharge of the ulceration. Four children not vaccinated against diphtheria contracted the disease. The clinical course was severe, in two cases giving rise to severe myocarditis.
Contains 14 references (5 Polish and 9 Western).

1/1

TUSZKIEWICZ, Alfred Roman; KOWALEWSKI, Jan; KOZYRSKA, Halina.

Leukergy in chronic circulatory insufficiency. Kardiol.polska 1 no.1-2:70-73 1954.

1. Z II Kliniki Chorob Wewnetrznych AM w Lublinie. Kierownik: Prof. dr med. Alfred Roman Tuszkiewicz.
(LEUKOCYTES,
leukergy in congestive heart failure)
(CONGESTIVE HEART FAILURE, blood in,
leukergy)

SENDEROVICH, B.L., inzh.; KOZYRSKIY, A.D.

Building innovators and efficiency promoters. Energ.stroi. no.23: 37-42 '61. (MIRA 15:1)
(Kremenchug Hydroelectric Power Station--Construction workers)

KOZYRSKIY, G. Ya.

USSR

Carbide formation and graphitization in annealing silicon steel. G. Ya. Kozyrskii. *Voprosy Fiz. Metallov i Metalloved., Akad. Nauk Ukr. S.S.R.* 1953, No. 1, 37-41; *Referat. Zhur., Khim.* 1954, No. 36531.—The x-ray structural analysis was carried out on a steel contg. 1.08% C and 1.83% Si. The kinetics of carbide particle growth of the Fe-C-Si. The kinetics of carbide particle growth of the Fe-C-Si was detd. from the width of lines on a radiograph of carbide—opts., electrolytically sepd. from steel, annealed at 360-650°, at 10° intervals, for 2 hrs. at each temp. Graphitization was studied by the change of the width of lines of cementite in relation to the time of anneal at 600-650°. On these diagrams was studied also the time of appearance of graphite lines and the disappearance of cementite lines. The carbide which formed in C steel at 150-300° was finely dispersed and had a flaky structure. At 150-350° the particles grew rapidly. Addn. of Si arrested the coagulation of carbide particles, which means that Si arrests the sepn. of C from α-solid solns. when the latter decomp. It is assumed that Si reduced the coeff. of diffusion of C in ferrite. The effect of Si on the size of carbide particles for various times of anneal at 650° was demonstrated. At the beginning of anneal there was a continuous growth of carbide particles which attained a max. size at 30 min. of annealing. At 100 min. of annealing graphite lines appear and at 2 hrs. of annealing α and β structures of graphite appear. From the relation between the rate of graphitization and annealing temp. the activation energy of cementite graphitization process was calcd. and was found to be 31,400 cal./g./mole. The small activation energy is attributed by the large no. of hardening cracks. 14 Hoesh

KOZYRSKIY, G. Ya.

Dissertation: "Effect of Silicon on the Change in the Crystalline Structure of Chilled Steel During Tempering." Cand Phys-Math Sci, Laboratory of Metallophysics, Acad Sci Ukrainian SSR, Kiev, 1953. (Referativnyy Zhurnal-Khimiya, No 9, Moscow, May 54)

SO: Sum 318, 23 Dec 1954

KOZYRSKIY, G. Ya.

USSR

Influence of chromium and silicon on the alteration of thin crystalline structure of steel on annealing. L. I. Lysak and G. Ya. Kozyrskiy. Zhur. Tekh. Fiz. 23, 1701-6 (1953). The change in dimension of zones of coherent distribution (of blocks) and alteration of second kind of cryst. lattice of α phase of α Cr and two Si steels on annealing was studied by an x-ray method. It is shown that in the steels investigated the character of change on annealing, alteration of lattice and dispersion of blocks, is the same as in carbide lattices. V. N. Bednarski

KOZYRSKIY, G.Ya.

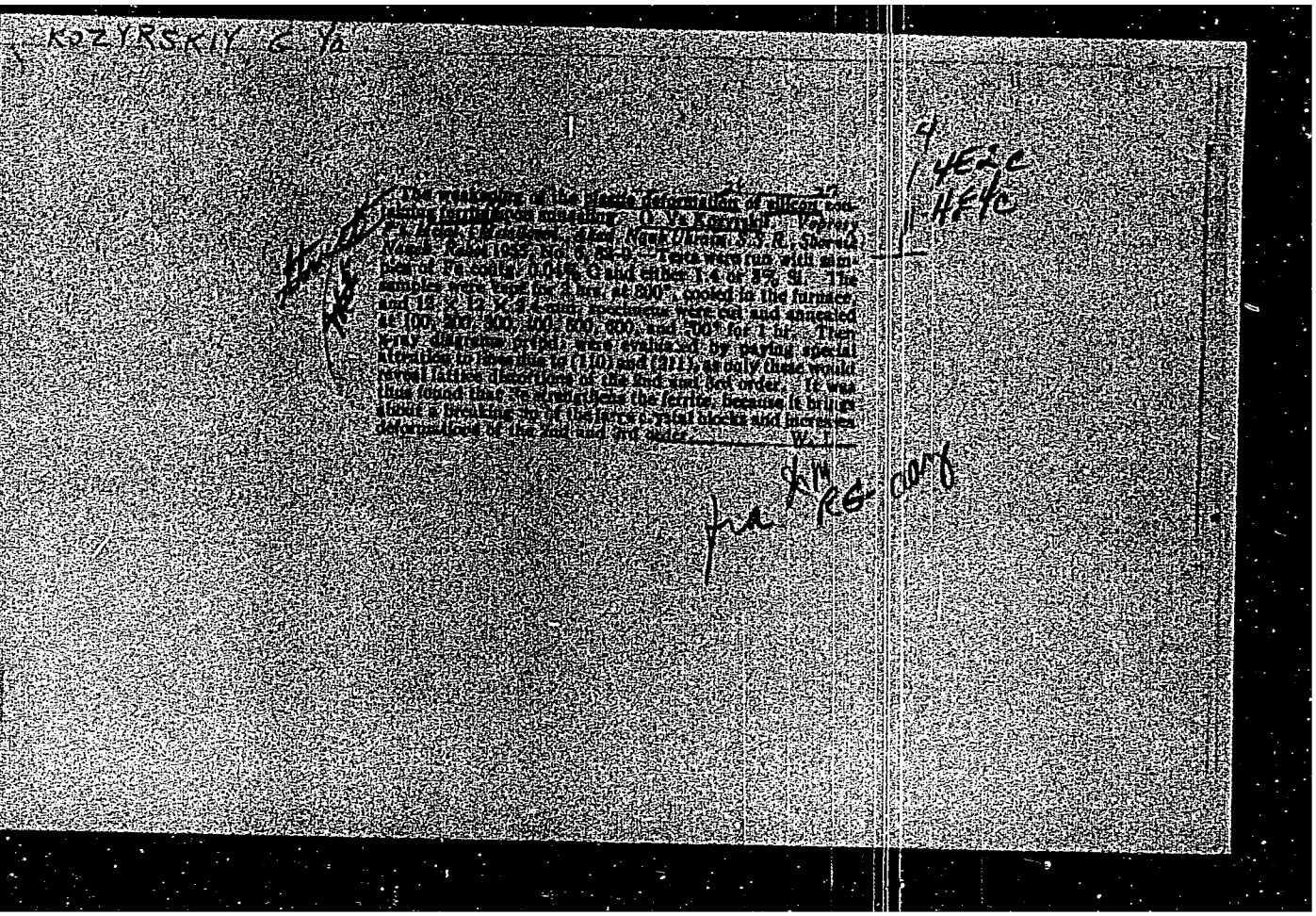
Changes in the fine crystal structure and the weakening of 9KhS and SKh8 steel varieties due to tempering. Sbor. nauch. rab. Lab. metallofiz. no.5:61-70 '54. (MLRA 8:9)
(Steel--Heat treatment)

KOZYRSKIY, G. Ya.

"The Softening of Plastically Deformed Silicon Ferrite During Tempering"

an article in the book "Questions on the Physics of Metals and Metal Science", AS Ukr. SSR, Kiev, 1955, 151 pp.

So: Sum No. 1102, 19 Oct 56



137-58-3-5746

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 179 (USSR)

AUTHOR: Kozyrskiy, G. Ya.

TITLE: The Influence of Tungsten on the Cohesive Forces in Crystals of α-Iron (Vliyaniye vol'frama na sily svyazi v kristallakh α-zheleza)

PERIODICAL: Sb. nauchn. rabot In-ta metallofiz. AN UkrSSR, 1956, Nr 7, pp 28-31

ABSTRACT: X-ray diffraction methods were employed in order to investigate the influence of W on the variations in the cohesive forces (CF) in ferrite crystals. Specimens investigated were of the following chemical composition: 97.74 percent Fe, 0.02 percent C, 0.04 percent Si, 2.2 percent W. Prior to the manufacture of the specimens the material was subjected to annealing at 700°C for a period of two hours. The heat factor of X-ray dispersion and the characteristic temperature θ determined from it served as indicators of the magnitude of the CF. X-ray photographs were taken with Mo-radiation at room temperature and at a temperature of -185°. The integral intensity of the reflections from the planes (211), (310), (321), and (732) was

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137-58-3-5746

The Influence of Tungsten on the Cohesive Forces in Crystals of Iron

determined from the X-ray photographs with the aid of a microphotometer of the MF-2 type. The relationship between the line intensities yielded a θ value of 530°, or 100° greater than the value for pure Fe; it may be deduced that, compared with pure Fe, the CF in crystals of α Fe alloyed with W are considerably (approximately 1.5 times) larger.

A. R.

Card 2/2

137-58-6-13304

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 306 (USSR)

AUTHOR: Kozyrskiy, G. Ya.

TITLE: Changes in Fine Crystalline Structure of Plastically Deformed Tungsten in the Process of Annealing (Izmeneniye tonkoy kristallicheskoy struktury plasticheski deformirovannogo vol'frama pri otpuske)

PERIODICAL: Sb. nauchn. rabot In-ta metallofiz. AN UkrSSR, 1957, Nr 8, pp 109-116

ABSTRACT: The "blurring" of reflexes (310) and (750) obtained in Fe and Mo radiation, respectively, were employed in x-ray procedures to determine stresses of type II, $\delta a/a$, as well as the dimension of blocks, D, in tungsten after it had been sectioned and subsequently annealed for a period of 1 hour at temperatures of 400-1100°C; the kinetics of their changes was also studied at temperatures of 700, 900, and 1100°. In addition, the microhardness of sectioned particles not exceeding 0.25 mm in size was measured before and after the various thermal treatments. It was found that, after sectioning, the $\delta a/a = 1.4 \times 10^{-3}$ and $D = 2 \times 10^{-6}$ cm. It is shown that

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Changes in Fine Crystalline Structure (cont.)

the reduction in the strength of W during annealing is accompanied by stress relief and growth of blocks. A one-hour anneal at a temperature of 900° results in a reduction of stresses and a noticeable increase in the size of blocks. The author draws attention to the different nature of these kinetic processes: the rate of growth of blocks increases continuously with time, whereas the rate of stress relief decreases and the magnitude of stresses tends to acquire a certain constant value for each given temperature. Both processes proceed more intensively at higher temperatures of anneal. Although observed at 400°, the reduction in the strength of W is particularly noticeable at 1000-1100°.

A. B.

1. Tungsten--Crystal structure 2. Tungsten--Deformation 3. Tungsten--Heat treatment 4. Tungsten--Stresses 5. Tungsten--X-ray analysis

Card 2/2

KOZYRSKIY, G.Ya.; KRITSKAYA, V.K.

Binding forces and static distortions in silicon alloyed iron crystals. Sbor. nauch. rab. Inst. metallofiz. AN URSR no.8: 117-120 '57. (MIRA 11:5)
(Iron alloys--Metallography) (Metal crystals)

KOZYRSKIY, G.Ya. [Kozyrs'kyi, H.IA.]; KONONENKO, V.A.; OKRAINETS, P.N. [Okrainets, P.M.]

Structural changes of nickel during creep [with summary in English]. Ukr. fiz. zhur. 3 no.3:391-396 My-Je '58. (MIRA 11:10)

1. Institut metallofiziki AN USSR.
(Nickel) (Creep of metals)

SOV/24-58-8-15/37

AUTHORS: Kozyrskiy, G. Ya., Kononenko, V. A. and Okrainets, P.N. (Kiyev)

TITLE: Investigation of the Structural Changes in a Nickel-Chromium Alloy During Creep (Issledovaniye strukturnykh izmeneniy v nikel'-khromovom splave pri polzuchesti)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 8, pp 90-92 (USSR)

ABSTRACT: The structural changes at elevated temperatures and pressures which lead to considerable changes in the physical and mechanical properties have been investigated by various authors (Refs.1-4). In this paper the results are described of investigations of structural changes which take place in a Ni-Cr alloy during creep. The investigations were carried out mainly by X-ray structural and metallographic analyses on specimens of an alloy containing 80.2% Ni and 19.8% Cr. The microstructure in the original state contained equiaxial fine grains, the average diameter of which varied between 0.2 and 0.3 mm. X-ray investigations have shown that the alloy is in the metastable state with a sub-structure which is characteristic for this state and that Type II

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Investigation of the Structural Changes in a Nickel-Chromium Alloy During Creep

and Type III distortions are present. Three series of specimens were produced, the first was annealed at 700°C for 4.8 and 16 hours. However, the X-ray patterns did not indicate any appreciable change in the state of the alloy. Additional annealing at 800°C for two hours has also not resulted in any appreciable changes in the X-ray patterns, the hardness remained the same as prior to annealing. The second series of specimens were annealed in evacuated quartz ampules at 1170°C for 64 hours; the grains grew to an average size of 0.5 to 0.6 mm, lattice distortions ceased to exist, the hardness decreased and an intensively developed twining structure was observed. Etching revealed only the twin boundaries and clearly pronounced fine grain boundaries. The third series of specimens were investigated for creep without any preliminary heat treatment on an MP-4 test machine at 700°C with a load of 10 kg/mm^2; specimens of 5 mm dia. and 50 mm length were tested. To carry out X-ray structural and micro-

 structural investigations, the creep tests were

Investigation of the Structural Changes in a Nickel-Chromium Alloy During Creep

discontinued and then restarted. Creep curves for the first and second series of specimens are graphed in Fig.1. In Fig.2 the change in the hardness, the creep speed and the width of the (311) line are graphed for the first series of specimens as a function of time. In Fig.3 the changes of the creep speed and of the hardness as a function of time are graphed for the second series of specimens. In Fig.4 X-ray patterns are reproduced for the specimens of the first series after annealing for 16 hours at 700°C and additionally for 2 hours at 800°C followed by creep tests for zero, 4, 8, 35 and 70 hours. On the basis of the obtained results the following conclusions are arrived at:

1. During the first stage of creep of the alloy, which is in the metastable state, processes of perfection of the crystal lattice proceed faster than in the case of the alloy being exposed solely to the effect of the temperature.

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2. The creep speed is determined not only by the temperature and the load at which the creep proceeds but

Investigation of the Structural Changes in a Nickel-Chromium Alloy During Creep

also by the state of the deformed alloy. The creep speed proceeds considerably faster in alloys which are in the metastable state and have a higher strength at lower temperatures.
There are 4 figures and 6 references, 4 of which are Soviet, 2 English.

ASSOCIATION: Institut metallofiziki Akademii Nauk Ukr.SSR
(Institute of Metal Physics, Ac.Sc., Ukrainian SSR)

SUBMITTED: February 28, 1958

1. Chromium-nickel alloys--Creep 2. Chromium-nickel alloys--Structural analysis 3. Chromium-nickel alloys--X-ray analysis 4. Chromium-nickel alloys--Temperature factors

KOZYRSKIY, G. YA.

PHASE I BOOK EXPLOITATION SOV/4177

Akademiya nauk Ukrainskoy SSR. Institut metallofiziki

Voprosy fiziki metallov i metallovedeniya (Problems in the Physics of Metals and Metallography) Kiyev, Izd-vo AN USSR, 1959. 215 p. (Series: Its: Sbornik nauchnykh rabot, no. 10) 3,000 copies printed.

Ed. of Publishing House: O.M. Pechkovskaya; Tech. Ed.: R.A. Buniy; Editorial Board: V.N. Svechnikov, Academician, Academy of Sciences UkrSSR (Resp. Ed.), S.D. Gertsriken, Doctor of Physics and Mathematics, and I.Ya. Dekhtyar, Doctor of Technical Sciences.

PURPOSE: This collection of articles is intended for scientific workers, aspirants and engineers working in metal physics, metallography and metallurgy, and for students in advanced courses of metallurgy and physics departments.

COVERAGE: The collection of articles gives the results of an investigation of the effect of high heating rates, thermal treatment, deformation and crystallization conditions on the phase transformations, structure and properties of metals and alloys, and of the effect of alloying additives on volume and intergranular

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diffusion in alloys, as well as the effect of repeated tempering by ultrasound irradiation on the physical properties of alloys. There is also a description of an x-ray camera for studying the structure of the individual grains. The following personalities are mentioned: V. Raksha, A.A. Smirnov, S.G. Glazunov, Ye.I. Morozov, V. Danilenko, L.M. Kikot', and I. Ya. Dekhtyar', Doctor of Technical Sciences. There is a bibliography of Soviet and non-Soviet references at the end of each article.

TABLE OF CONTENTS:

KOZYRSKIY, G.Ya.; KONONENKO, V.A.; OKRAINETS, P.N.

Studying the mechanism of nickel deformation during creep by the reflection from individual grains. Sbor. nauch. rab. Inst. metallofiz. AN URSR no.10:3-12 '59. (MIRA 13:9)
(Metal crystals--Optical properties)
(Nickel--Metallography)

KOZYRSKIY, G.Ya.; OKRAINETS, P.N.

Metallographic study of creep in pure nickel. Sbor. nauch. rab. Inst. metallofiz. AN URSR no.10:13-20 '59. (MIRA 13:9)
(Nickel--Metallography) (Creep of metals)

KOZYRSKIY, G.Ya.; KONONENKO, V.A.; OKRAINETS, P.N.

X-ray camera for the study of the structure of individual crystals.
Sbor. nauch. rab. Inst. metallofiz. AN URSR no.10:21-25 '59.
(MIRA 13:9)
(X rays--Apparatus and supplies)
(Metal crystals--Optical properties)

KOZYRSKIY, G.Ya.

Metal failure during creep. Sbor. nauchn rab. Inst. metallofiz. AN URSR no.10:200-206 '59. (MIRA 13:9)
(Creep of metals)

KOZYRSKIY, G.YA.

PHASE I BOOK EXPLOITATION SOV/4502

Akademiya nauk SSSR. Nauchnyy sovet po probleme zharoprochnykh splavov

Issledovaniya po zharoprochnym splavam, tom 6 (Investigations of Heat-Resistant Alloys, Vol. 6) Moscow, 1960. 319 p. Errata slip inserted. 3,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A. A. Baykova. Nauchnyy sovet po probleme zharoprochnykh splavov.

Editorial Board: I. P. Bardin (Deceased) Academician, G. V. Kurdyumov, N. V. Ageyev, Corresponding Member, Academy of Sciences USSR (Resp. Ed.), I. A. Oding, I. M. Pavlov, and I. F. Zudin, Candidate of Technical Sciences; Ed. of Publishing House: V. A. Klimov; Tech. Ed.: S. G. Tikhomirova.

PURPOSE: This book is intended for research workers in the field of physics of metals and for metallurgists, particularly those working on heat-resistant alloys.

COVERAGE: This collection of 45 articles deals with various problems in the

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production of heat-resistant alloys. Special attention is paid to the mechanisms of deformation of such metals as aluminum, copper, iron, and nickel. Various defects and failures of metals are analyzed, and means for increasing the heat resistance and plasticity are described. Among the special problems discussed are: electrolytic conductivity of iron-aluminum alloys in the solid state; the mobility of atoms in nickel-iron alloys, depending upon defects of their crystalline structure; the kinetics of change in isolated pores; the irreversible thermal transformation of solid bodies, etc. No personalities are mentioned. References follow each article.

TABLE OF CONTENTS:

DANILENKO, V.M.; KOZYRSKIY, G.Ya. [Kozyrs'kyi, H.IA.]

Intensity of X-ray reflections on a roentgenogram. Ukr. fiz. zhur. 5 no.2:190-202 Mr-Ap '60. (MIRA 13:12)

1. Institut metallofiziki AN USSR.
(X rays)

KOZYRSKIY, G.Ya.; KONONENKO, V.A.; OKRAINETS, P.N.

Studying the mechanism of nickel deformation during creep by the reflection of individual grains. Issl. po zharopr. splav. 6:17-24 '60. (MIRA 13:9)

(Nickel--Metallography) (Creep of metals)

KOZYRSKIY, G.Ya.

Metal failure during creep. Issl. po zharopr. splav, 6:25-28 '60.
(MIRA 13:9)

(Creep of metals)

S/601/60/000/011/008/014
D207/D304

AUTHORS: Kozyrskiy, G. Ya., and Kononenko, V. A.

TITLE: Fragmentation of nickel grains during creep

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Instytut metalofyzyky. Sbornik nauchnykh rabot. no. 11. 1960. Voprosy fiziki metallov i metallovedeniya, 94-100

TEXT: The authors observed fragmentation of grains and other structural changes in nickel during creep, employing a technique used earlier for iron by G. Ya. Kozyrskiy, V. A. Kononenko and P. N. Okrainets' (Ref. 1: Ukr. fiz. zhurn., 3, no. 3, 391, 1958; Ref. 2: Sbornik "Voprosy fiziki metallov i metallovedeniya" no. 9, 12, 1959). A single sample was used. It was made of pure and annealed (3 hours at 1100°C) nickel. Structural changes were deduced from changes in X-ray diffraction patterns and also observed directly by microphotography. Creep tests at 450°C for

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